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EXAMINER

PREVIL, DANIEL

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/731,789

Applicant(s)

MICKLE ET AL.

Examiner

Daniel Previl

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/15/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This action is responsive to communication filed on November 14, 2005.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Augenblick et al. (US 3,798,642) in view of Greene (US 5,204,681).

Regarding claim 1, Augenblick discloses a method of identifying an article of interest (col. 4, lines 52-55) comprising: providing one of a plurality of RF antennas (RF oscillator 12, antenna 20 and antenna 38) (fig. 1) each having a non-linear element (diode 28) (fig. 1) and being resonant at one of plurality of different frequencies positioned on an article of interest (target 24) (fig. 1) (col. 3, lines 7-17; col. 4, lines 13-22); interrogating one RF antenna with RF energy of a first frequency (fig. 1); converting interrogating RF energy into reflected RF energy of a different frequency from first frequency (fig. 1).

Augenblick discloses all the limitations above but fails to explicitly disclose the step of sensing reflected RF energy and on the basis of different frequencies determining if a specific antenna is present.

However, Grene discloses the step of sensing reflected RF energy and on the basis of different frequencies determining if a specific antenna is present (col. 3, lines 13-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Grene in Augenblick in order to accurately detect a RF response signal from the target by determining quickly and efficiently if a target is present in the target field, thereby precluding the article from being stolen as taught by Grene (col. 1, lines 65-67; col. 2, lines 34-38).

Regarding claim 2, Augenblick discloses a non-linear element is a rectifying diode (diode 28) (col. 3, lines 18-25).

Regarding claim 3, Augenblick discloses specific antenna is present and different frequency being about double first frequency (fig. 1).

Regarding claim 4, Augenblick discloses antenna assembly providing a half wave rectified sine wave from interrogating RF energy (fig. 6).

Regarding claim 5, Augenblick discloses the step of interrogating RF energy producing a sine wave (fig. 6).

Regarding claim 6, Augenblick discloses half wave-rectified sine wave has a fundamental Fourier series which is about double the frequency of sine wave (fig. 6).

Regarding claim 7, Augenblick and Grene disclose all the limitations in claim 1 and Grene further discloses the step of employing two interrogating

frequencies in determining if an article of interest is present (fig. 1; col. 3, lines 13-33). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Grene in Augenblick in order to accurately detect a RF response signal from the target by determining quickly and efficiently if a target is present in the target field, thereby preventing articles from being stolen as taught by Grene (col. 1, lines 65-67; col. 2, lines 34-38).

Regarding claim 8, Augenblick discloses the step of employing a spectrum analyzer (comparator 54) (fig. 1) in analyzing different frequency (fig. 1; col. 4, lines 39-51).

Regarding claims 9-11, Augenblick and Grene disclose all the limitations in claim 7 and Grene further discloses the step of employing a binary analysis in determining if an article of interest is present (col. 4, lines 20-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Grene in Augenblick in order to accurately detect a RF response signal from the target thereby determining quickly and efficiently if a target is present in the target field as taught by Grene (col. 1, lines 65-67; col. 2, lines 34-38).

Regarding claim 12, Augenblick discloses a second non-linear element cooperating with said non-linear element to provide a variable readout which is a function of a specific physical condition (col. 6, lines 10-26).

Regarding claim 13, Augenblick discloses physical condition selected from radiation (radiated from the target) (col. 6, line 17).

Regarding claim 14, Augenblick discloses the step of employing as non-linear elements a variable non-linear element (col. 6, lines 10-38).

Regarding claim 15, Augenblick discloses determining if an article of interest is present (fig. 1) comprising: articles of interest having at least one antenna having one frequency of a plurality of available frequencies (fig. 1; col. 3, lines 7-17; col. 4, lines 13-50); a non-linear element operatively associated with antenna (diode 28) (fig. 1; col. 3, lines 17-25); an RF frequency generator for directing RF energy of a particular frequency to antenna (fig. 1).

Augenblick discloses all the limitations above but fails to explicitly disclose a detector for receiving reflected RF energy which has impinged on antenna and a processor for determining from reflected frequency whether the antenna is a specific antenna.

However, Greene discloses a detector for receiving reflected RF energy which has impinged on antenna (a receiver 30 for receiving R.F. frequency response signals 36) (col. 3, lines 22-25) and a processor for determining from reflected frequency whether the antenna is a specific antenna (signal processor 32 indicative the presence of a target 10) (col. 3, lines 24-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Greene in Augenblick in order to accurately detect a RF response signal from the target by

determining quickly and efficiently if a target is present in the target field, thereby precluding the article from being stolen as taught by Greene (col. 1, lines 65-67; col. 2, lines 34-38).

Regarding claim 16, Augenblick discloses a non-linear element is a rectifying diode (diode 28) (col. 3, lines 18-25).

Regarding claim 17, Augenblick discloses RF frequency generator being structured to produce interrogating RF energy in the form of a sine wave (fig. 6).

Regarding claim 18, Augenblick discloses antenna being structure to produce a half wave rectified sine wave from interrogating RF energy (fig. 6).

Regarding claim 19, Augenblick discloses antenna being structured to provide half wave rectified sine wave at a fundamental Fourier series component which is about double frequency of sine wave (fig. 6).

Regarding claim 20, Augenblick discloses a RF frequency generator being structured to provide at least two interrogating RF frequencies (fig. 1).

Regarding claim 21, Augenblick discloses a spectrum analyzer for analyzing different frequencies (fig. 1; col. 4, lines 39-51).

Regarding claim 22, Augenblick discloses a second non-linear element cooperating with said non-linear element to provide a variable readout which is a function of a specific physical condition (col. 6, lines 10-26).

Regarding claim 23, Augenblick discloses physical condition selected from radiation (radiated from the target) (col. 6, line 17).

Regarding claim 24, Augenblick discloses a method of monitoring a physical property (fig. 1) comprising: providing an antenna having a non-linear element whose response depends on the physical property being monitored (diode 28) (fig. 1; col. 3, lines 18-25); interrogating RF antenna with RF energy of a first frequency converting the interrogating RF energy into reflected RF energy of a different frequency from first frequency (fig. 1).

Augenblick discloses all the limitations above but fails to explicitly disclose the step of sensing reflected RF energy on the basis of different frequencies to determine the state of physical property.

However, Greene discloses the step of sensing reflected RF energy on the basis of different frequencies to determine the state of physical property (fig. 1; col. 3, lines 13-33).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Greene in Augenblick in order to accurately detect a RF response signal from the target by determining quickly and efficiently if a target is present in the target field, thereby precluding the article from being stolen as taught by Greene (col. 1, lines 65-67; col. 2, lines 34-38).

Regarding claim 25, Augenblick discloses a non-linear element is a rectifying diode (diode 28) (col. 3, lines 18-25).

Regarding claim 26, Augenblick discloses specific antenna is present and different frequency being about double first frequency (fig. 1).



Regarding claim 27, Augenblick discloses antenna assembly providing a half wave rectified sine wave from interrogating RF energy (fig. 6).

Regarding claim 28, Augenblick discloses the step of interrogating RF energy producing a sine wave (fig. 6).

Regarding claim 29, Augenblick discloses half wave-rectified sine wave has a fundamental Fourier series which is about double the frequency of sine wave (fig. 6).

Regarding claim 30, Augenblick discloses the step of employing a spectrum analyzer (comparator 54) (fig. 1) in analyzing different frequency (fig. 1; col. 4, lines 39-51).

Regarding claim 31, Augenblick discloses a second non-linear element cooperating with said non-linear element to provide a determination regarding whether an article of interest is present (col. 6, lines 10-26).

Regarding claim 32, Augenblick discloses physical condition selected from radiation (radiated from the target) (col. 6, line 17).

Regarding claim 33, Augenblick discloses determining if an article of interest is present (fig. 1) comprising: an antenna having one frequency of a plurality of available frequencies (fig. 1; col. 3, lines 7-17; col. 4, lines 13-50); a non-linear element operatively associated with antenna (diode 28) (fig. 1; col. 3, lines 17-25); an RF frequency generator for directing RF energy of a particular frequency to antenna (fig. 1).

Augenblick discloses all the limitations above but fails to explicitly disclose a detector for receiving reflected RF energy which has impinged on antenna and a processor for determining from reflected frequency whether the antenna is a specific antenna.

However, Greene discloses a detector for receiving reflected RF energy which has impinged on antenna (a receiver 30 for receiving R.F. frequency response signals 36) (col. 3, lines 22-25) and a processor for determining from reflected frequency whether the antenna is a specific antenna (signal processor 32 indicative the presence of a target 10) (col. 3, lines 24-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Greene in Augenblick in order to accurately detect a RF response signal from the target by determining quickly and efficiently if a target is present in the target field, thereby precluding the article from being stolen as taught by Greene (col. 1, lines 65-67; col. 2, lines 34-38).

Regarding claim 34, Augenblick discloses a non-linear element is a rectifying diode (diode 28) (col. 3, lines 18-25).

Regarding claim 35, Augenblick discloses RF frequency generator being structured to produce interrogating RF energy in the form of a sine wave (fig. 6).

Regarding claim 36, Augenblick discloses antenna being structure to produce a half wave rectified sine wave from interrogating RF energy (fig. 6).

Regarding claim 37, Augenblick discloses antenna being structured to provide half wave rectified sine wave at a fundamental Fourier series component which is about double frequency of sine wave (fig. 6).

Regarding claim 38, Augenblick discloses a RF frequency generator being structured to provide at least two interrogating RF frequencies (fig. 1).

Regarding claim 39, Augenblick discloses a spectrum analyzer for analyzing different frequencies (fig. 1; col. 4, lines 39-51).

Regarding claim 40, Augenblick discloses a second non-linear element cooperating with said non-linear element to provide a variable readout which is a function of a specific physical condition (col. 6, lines 10-26).

Regarding claim 41, Augenblick discloses a second non-linear element cooperating with non-linear element to provide a variable readout which is a function of a specific physical condition (col. 6, lines 10-26).

### ***Response to Arguments***

3. Applicant's arguments filed on November 14, 2005 have been fully considered but they are not persuasive.

According to Applicant's argument on page 12 "The Augenblick teachings are for a single target which is to be differentiated from the present invention". The examiner respectfully disagrees with the Applicant because Augenblick clearly discloses "this invention relates generally to a recognition system for identifying one or more group of targets" (col. 1, lines 6-10).

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA) 1969. In this case, both references are in the same field of endeavor, therefore the combination is proper.

Applicant fails to mention how the modulating frequency of Augenblick is different from Applicant's invention. And Applicant fails to describe why Amplitude modulation cannot be used. The examiner examines the claims not the specification.

According to Applicant's argument on page 13 "Augenblick does not disclose a second non-linear element". The examiner strongly disagrees because Augenblick discloses a diode 72 and a diode 78 which is considered as second non linear element (col. 6, lines 10-21).

According to Applicant's argument on page 14 "Augenblick is totally silent on the measurement of any state of physical properties based on frequency of

determination". The examiner urges the Applicant to read Augenblick on col. 3, lines 40-62).

Contrary to Applicant's argument on page 14 regarding non linear element, Augenblick discloses nonlinear diode (col. 3, lines 20-28).

For at least the above reason, the rejection of claims 1-41 is sustained.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2636

Nysen (US 6,060,815) discloses a frequency mixing passive transponder.

Hurta et al. (US 5,809,142) discloses method and system for calculating a user account balance in a recognition system.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is (571) 272-2971. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Previl  
Examiner  
Art Unit 2636

DP  
January 11, 2006.

  
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